Evaluating Functions

Task Cards

Task 1:

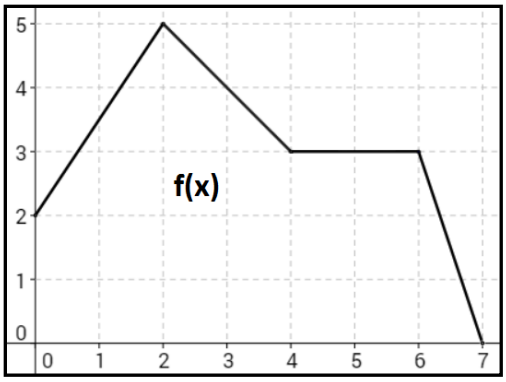
Looking at the given table and graph, evaluate the following functions:

1: f(2) **2:** h(0) **3:** f(0) **4:** f(3)

5: f(x) = 5; **x =**

6: h(x) = 4; **x =**

7: f(4) + h(4)



x	h(x)
-3	17
-2	23
-1	-3
0	15
1	4
2	0
3	19
4	10
5	12
6	7

Task 2:

Given the table and equation, evaluate the following functions:

g(x) = 3x – 12

1: g(0) **2:** f(0) **3:** g(7) **4:** f(-3)

5: g(x) = 0; **x =**

6: f(x) = -3; **x =**

7: f[g(6)]

x	f(x)
-6	3
-3	31
0	22
3	-3
6	5
9	0

Task 3:

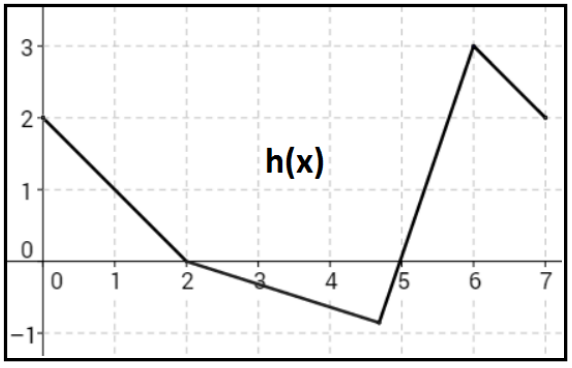
Looking at the equation and graph, evaluate the following functions:

$f(x) = x^2 + 1$

1: f(-1) **2:** f(1) **3:** f(-3) **4:** h(0)

5: h(1) **6:** h(x) = 3; **x =**

7: h[f(-2)]



Task 4:

Given the word problem and equation, evaluate the following functions:

1: f(-4) **2:** p(6) **3:** f(1) + p(1)

4: p(3) – f(-3) **5:** p[f(1)]

6: f[p(1)]

7: p(x) = 60; **x =**

$$f(x) = 2x^2 + 3$$

Bob is a waiter who gets paid $7 per hour x. If last night he made $25 in tips, find his total pay equation p(x).

Task 5:

Considering the table and word problem, evaluate the following functions:

1: f(0) **2:** p(0) **3:** 5p(13)

x	f(x)
-1	-17
0	-3
1	0
2	4
3	6
4	11

4: (f + p)(2)

5: (p • f)(1)

6: p[f(4)]

If Carmen gets paid a flat daily amount of $30 plus $1 for every magazine subscription x she sells, find her total pay equation p(x).

7: f(x) = 0; **x =**

Task 6:

Given the word problem and graph, evaluate the following functions:

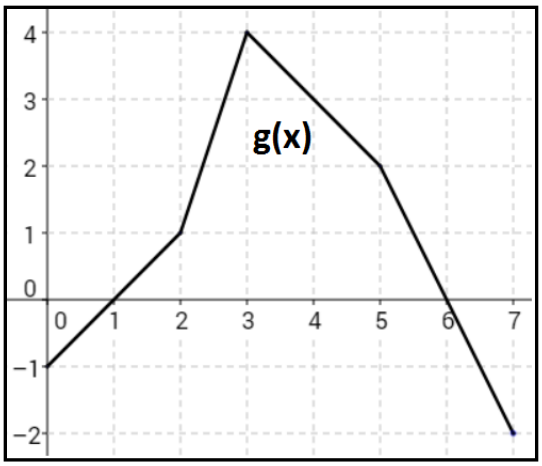
A taxi driver charges $5 plus $2 per mile x to ride in his taxi. Find the total cost of a trip in his taxi, t(x).

1: g(2) **2:** t(2) **3:** g(0)

4: g[t(0.5)]

5: t(x) = 15; **x =**

6: t[g(1)] **7:** g[t(1)]



Task 7:

Angela graduated from college a few months ago and now has $45,000 in student loan debt. Over the last few months, she has been saving and paying down her debt.

savings account balance per month x

x	f(x)
1	150
2	1,000
3	2,000
4	2,500
5	3,000
6	3,500

savings account balance x vs. student loan balance g(x)

x	g(x)
2,000	45,000
2,500	44,800
3,000	44,600
3,500	44,400
4,000	44,200
4,500	44,000

1: When Angela has $3,000 saved, what does she still owe in student loans?

2: Evaluate g[f(3)]

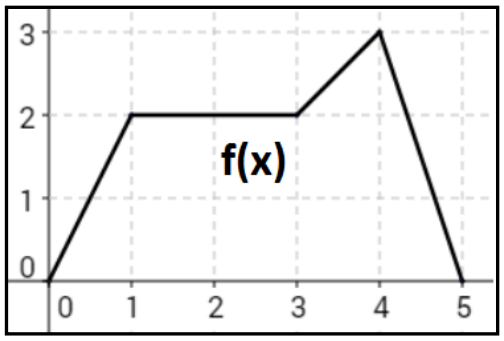
3: Evaluate g(3,500) – f(6)

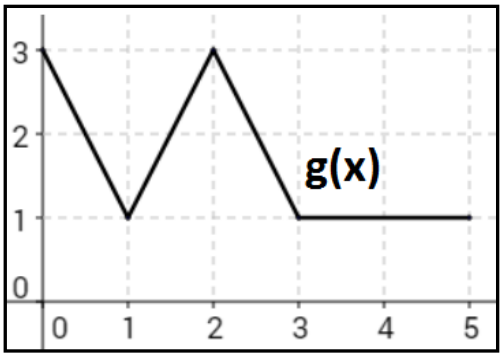
4: f(x) = 2,500; **x =**

5: g(x) = 44,200; **x =**

Task 8:

Use the two graphs to evaluate the following functions:





1: g(3)

2: (f + g)(2)

3: f[g(4)]

4: g[f(4)]

5: f[f(4)]

6: g[g(2)]

7: g(x) = 3; **x =**

Task 9:

Given the two equations, evaluate the following functions.

1: g(-4)

2: h(-4)

3: g(0)

4: (g – h)(3)

5: (h – g)(3)

6: g(x) = 24; **x =**

7: h(x) = 17; **x =**

$$g(x) = x^2 - 1$$

$$h(x) = -2x + 3$$

Task 10:

Considering the word problems for f(x) and p(x), evaluate the following functions.

1: p(500) **2:** f(365) **3:** p(100)

4: p[f(10)] **5:** p[f(365)]

6: Explain the answer you got for question 5.

The function f(x) models the total number of lamps produced on any given day x after the company opened. Each day 120 lamps are produced.

The function p(x) gives the total profit for any number x lamps produced. Each lamp carries a $7 profit.

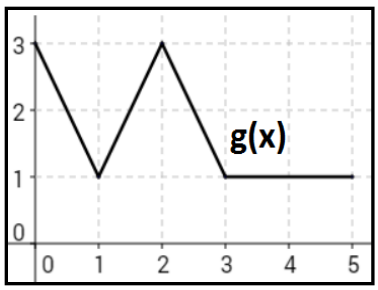
7: f(x) = 1,680; **x =**

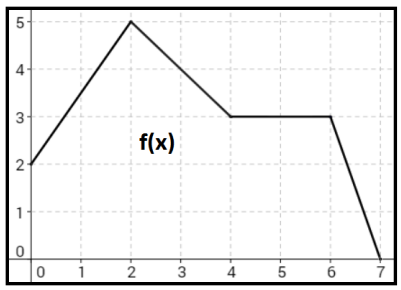
8: p(x) = 840; **x =**

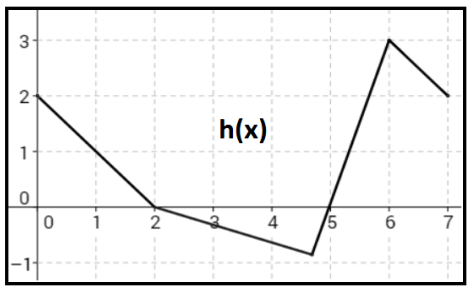
Bonus!

Looking at the three graphs below, evaluate:

g(f[h(0)]) + g(h[f(0)])







Name _____ Date _____

Evaluating Functions answer sheet

Task 1

1: _____
2: _____
3: _____
4: _____
5: x = _____
6: x = _____
7: _____

Task 2

1: _____
2: _____
3: _____
4: _____
5: x = _____
6: x = _____
7: _____

Task 3

1: _____
2: _____
3: _____
4: _____
5: _____
6: x = _____
7: _____

Task 4

1: _____
2: _____
3: _____
4: _____
5: _____
6: _____
7: x = _____

Task 5

1: _____
2: _____
3: _____
4: _____
5: _____
6: _____
7: x = _____

Task 6

1: _____
2: _____
3: _____
4: _____
5: x = _____
6: _____
7: _____

Task 7

1: _____
2: _____
3: _____
4: x = _____
5: x = _____

Task 8

1: _____
2: _____
3: _____
4: _____
5: _____
6: _____
7: x = ___ and ___

Task 9

1: _____
2: _____
3: _____
4: _____
5: _____
6: x = ___ and ___
7: x = _____

Task 10

1: _____
2: _____
3: _____
4: _____
5: _____
6: Explain:
7: x = _____
8: x = _____

Bonus!